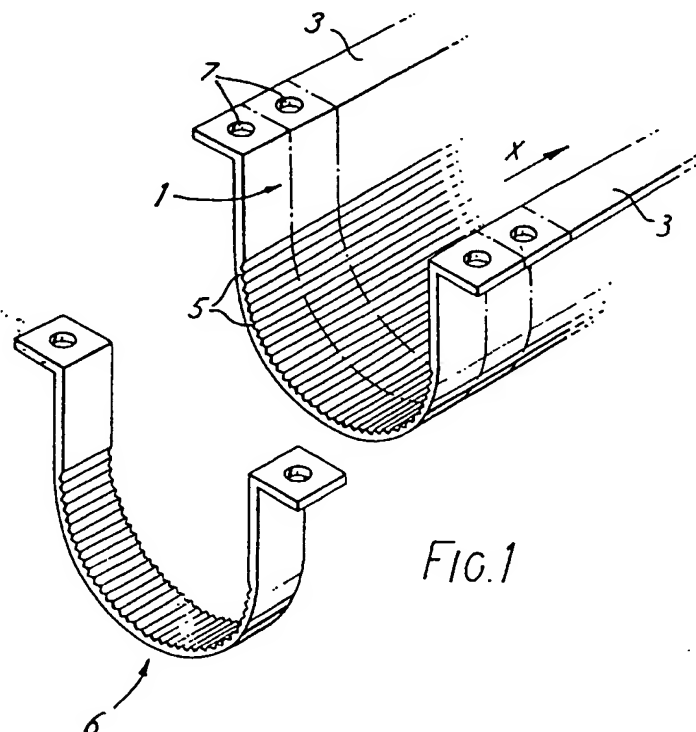


**(12) UK Patent Application (19) GB (11) 2 183 887 (13) A****(43) Application published 10 Jun 1987****(21) Application No 8613710****(22) Date of filing 5 Jun 1986****(30) Priority data****(31) 8529501****(32) 29 Nov 1985****(33) GB****(51) INT CL<sup>4</sup>****G09F 7/18****(52) Domestic classification (Edition I):****G5C ER****B3A 17****E2A 370 374 414 423 GEA****(71) Applicant****Spacesaver Signs Limited****(Incorporated in United Kingdom)****Winterstoke Road, Weston-super-Mare, Avon BS23 3YG****(72) Inventor****Robert Joseph Stephen Lundy****(74) Agent and/or Address for Service****Mewburn Ellis & Co.****2/3 Cursitor Street, London EC4A 1BQ****(56) Documents cited****GB 1572161****GB 1470520****WO 86/00453****(58) Field of search****G5C****E2A****B3A****Selected US specifications from IPC sub-class G09F****(54) Mounting brackets and method of manufacture**

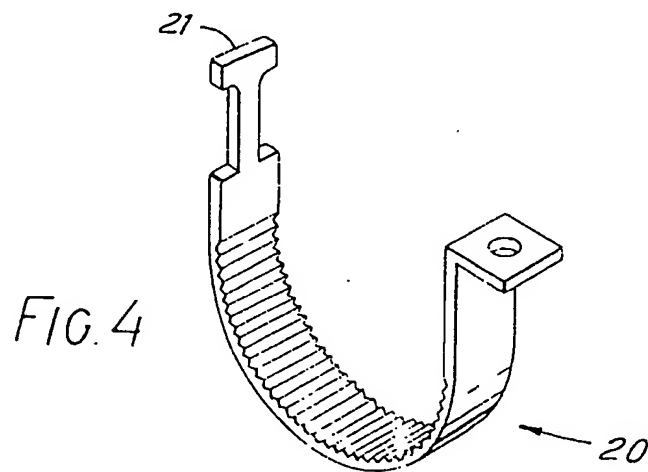
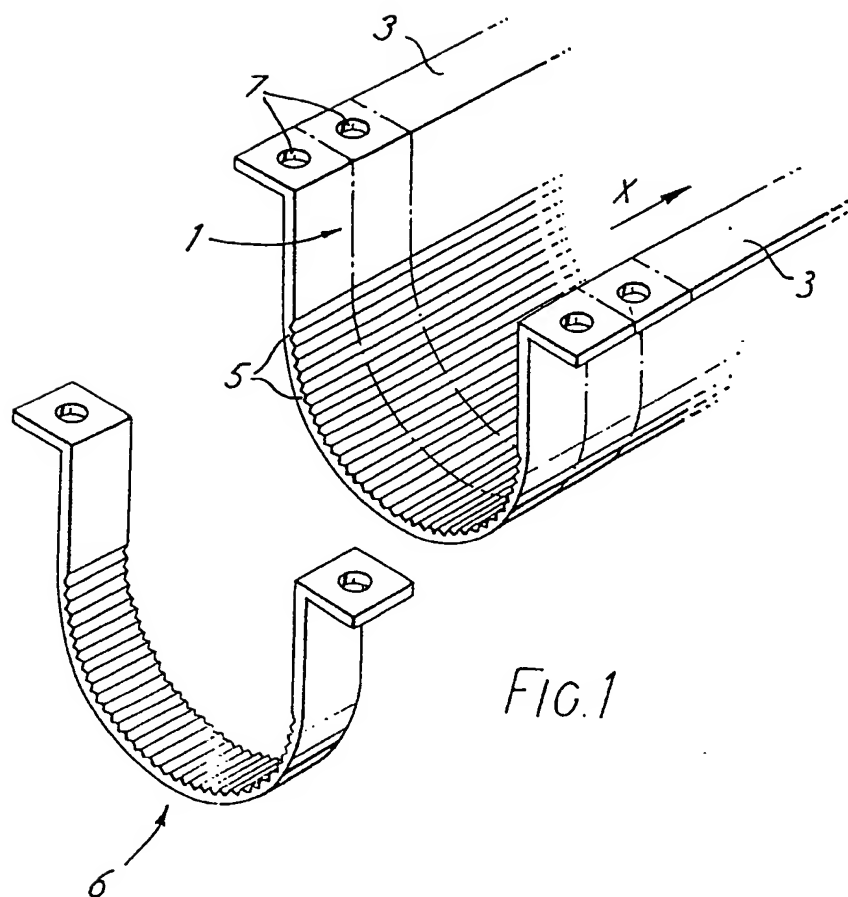
**(57)** A mounting bracket for attaching objects, such as signs, to a post is extruded as an elongate channel 1 and then divided into sections. The bracket is rounded to fit round a post and has internal radial ribs 5 to prevent slippage. Attachment means are provided to secure the bracket to the sign and these may take the form of two mutually outwardly directed flanges 3, or a flange and a T-shaped projection (21) which engages a key slot on the sign. The flanges are apertured at 7 so as to receive a securing bolt.

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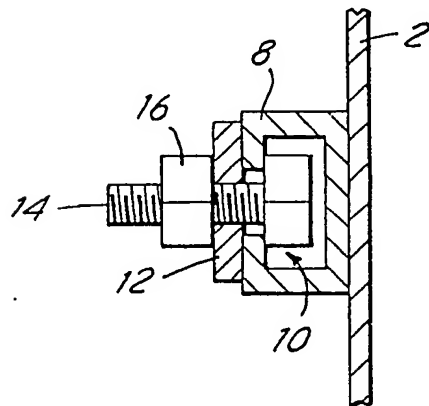
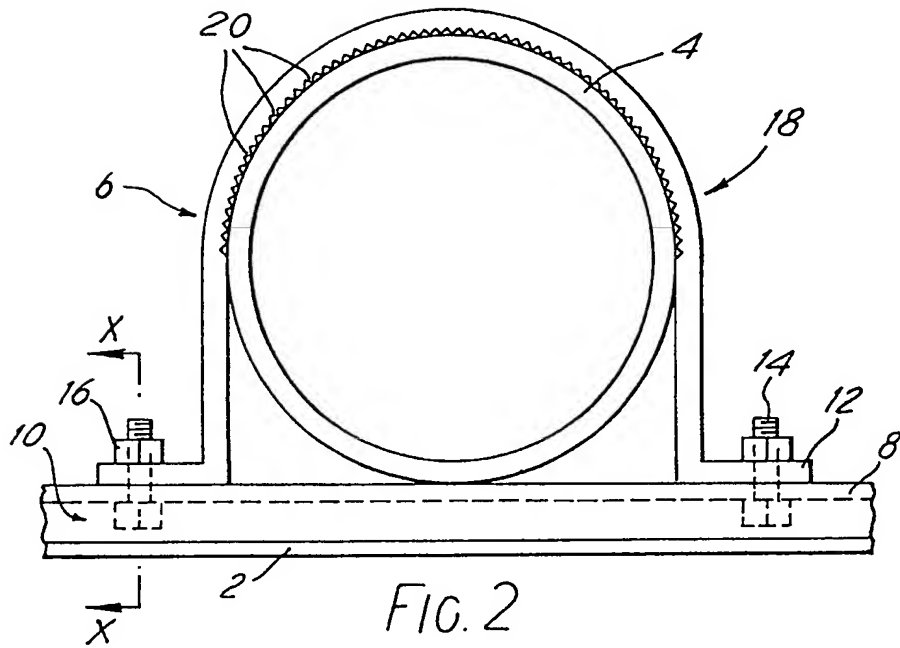
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## SPECIFICATION

**Mounting brackets and methods for manufacturing them**

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The present invention relates to mounting brackets, for example, for securing a sign plate to a supporting post, and to a method for manufacturing such brackets.

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A known way of securing a sign plate to its supporting post is by means of a mounting bracket having a shape, generally in the form of a "U", which enables it to be passed around and fitted against the post, the ends of the bracket being fastened to the rear of the sign plate, and the bracket being tightened around the post. Typically, the ends of the bracket are formed as mutually out-turned flanges, apertured to receive bolts by means of which the bracket is fastened to the sign plate. These brackets, have up until now, generally been made from either mild steel or stainless steel, and have been manufactured by cutting the steel into strips which are then pressed or otherwise formed into a desired shape. Another method of making the brackets is to cast them in a suitable material. It is therefore an object of the present invention to provide an improved method of manufacturing these brackets.

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According to the present invention, there is provided a method of making a bracket of a shape which enables it to be passed around and fitted against a post and secured at its ends to an object to be mounted on the post, which method comprises, taking an extruded metal channel having a cross-sectional shape corresponding to that desired for the bracket, and cutting lengths from the extrusion corresponding to the desired width of the bracket.

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Preferably, where the channel has a rounded bottom, the extrusion has a series of radially inwardly facing ridges on the inner surface of the channel which produce a series of teeth on the inner surface of the resulting brackets, to assist in preventing rotation on a post of circular cross-section.

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Preferably, means are provided at the channel mouth for securing the ends of the bracket to be secured to the object to be mounted on the post. The means may be the same on each side of the mouth. For example, the channel may have mutually outwardly directed flanges at the channel mouth, whereby the bracket has corresponding flanges at its ends for attachment to the object to be mounted. Suitably, these flanges have apertures for receiving a securing bolt or the like. The apertures can be formed either before or after the bracket is cut from the channel. Alternatively, the means on each side of the mouth may be different. Thus, one side may have a projection which engages a recess on the object, e.g. a 'T'-shaped projection, the head of which fits in a key-slot in or on the object,

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and the other side have a flange for receiving a securing bolt. In this latter case, the projection may be formed as part of the extrusion process, but is preferably formed subsequently by suitable shaping of the extrusion.

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The invention also includes mounting brackets made by the method hereof.

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According to another aspect of the present invention, there is provided a metal mounting bracket having a U-shaped portion, at the ends of which there are means for securing the bracket to an object, the base of the U being rounded and having integrally formed on its inner surface a series of axially extending parallel teeth.

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Again the means for securing the bracket may be the same at each end of the U-shaped portion or may be different, as discussed above.

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Embodiments of a mounting bracket produced by the process of the present invention will now be described with reference to the accompanying drawings, in which:

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Figure 1 shows a perspective view of brackets being formed;

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Figure 2 is an end view of the bracket in use;

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Figure 3 is a cross-sectional view along X-X of Fig. 2; and

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Figure 4 shows another embodiment of bracket.

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Referring to Fig. 1, a metal channel 1 having a U-shaped portion, and two mutually outwardly directed flanges 3 at the channel mouth, is extruded in the direction indicated by the arrow X, the base of the U being rounded and having a series of axially extending parallel ridges 5 on its inner surface. After the extrusion, apertures 7 are formed in the flanges at selected intervals and the channel is cut at the positions indicated by the dot-dash lines to obtain brackets 6 suitable for securing a sign plate to a circular-section supporting post. Alternatively, the apertures 7 could be formed in the flanges after the brackets are cut from the extrusion.

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Fig. 2 shows a sign plate 2 secured to a circular-section supporting post 4 by means of one such mounting bracket 6, connected to an elongate bar 8 fastened to the rear of the sign plate. The elongate bar 8 is formed from a single aluminum extrusion and may be attached to the rear of the sign plate by a series of pop rivets (R.T.M.) or other fasteners (not shown). It has a restricted-mouth channel 10 extending lengthwise to which flanges 12 of the mounting bracket are connected by means of bolts 14, the heads of which are retained within the channel, and the shanks of which pass through apertures in the flanges 12, to be tightened thereon by nuts 16. A U-shaped section 18 of the bracket extends around the support post and is held tight against it by tightening the nuts. The inner surface of the rounded base of the U-shaped

section has a series of axially extending parallel teeth 20 which bite into the post to help prevent rotation of the mounting bracket around the post.

- 5 Fig. 4 shows another embodiment of the invention. The bracket 20 of this embodiment is generally similar to the bracket 6 of Fig. 1, and corresponding parts will not be described further. In Fig. 4, however, the flange 12 on one side of the mouth is replaced by a T-shaped projection 21. This may be shaped so as to fit in channel 10 of bar 8 (see Fig. 3) with an appropriate key-shaped opening at some suitable point on the bar 8. The other side of the mouth of the bracket 20 has a flange 22 which may be secured to the bar 8 in the same way as the flange 12 of the bracket 6 of Figs. 1 to 3.

The bracket of Fig. 4 may also be formed by extrusion, but it would be necessary to cut the projection 21 to shape subsequent to the extrusion. Thus an additional manufacturing step is involved but the bracket 20 is easier to fix in place.

- 25 In general, there will be at least two such bracket and bar arrangements to secure the sign plate to the supporting post.

Of course, the post to which the bracket is secured may be of cross-sectional shapes other than the circular-section of the post shown in the above embodiment. It may, for example, be of triangular, hexagonal, rectangular or irregular section. The cross-sectional shape of the extrusion can therefore be chosen accordingly to enable the bracket to be fitted against the post.

#### CLAIMS

1. a method of making a bracket of a shape which enables it to be passed around and fitted against a post and secured at its ends to an object to be mounted on the post, which method comprises, taking an extruded metal channel having a cross-sectional shape corresponding to that desired for the bracket, and cutting lengths from the extrusion corresponding to the desired width of the bracket.
2. A method according to claim 1 wherein the channel has a rounded bottom.
3. A method according to claim 2 wherein the extrusion has a series of radially inwardly facing ridges on the inner surface of the channel which produce a series of teeth on the inner surface of the resulting brackets, to assist in preventing rotation on a post of circular cross-section.
4. A method according to any one of claims 1 to 3 wherein means are provided at the channel mouth for securing the ends of the bracket to the object to be mounted on the post.
5. A method according to claim 4 wherein the channel has mutually outwardly directed flanges at the channel mouth, whereby the bracket has corresponding flanges at its ends

for attachment to the object to be mounted.

6. A method according to claim 5 wherein apertures are formed in the flanges for receiving a securing bolt.

- 70 7. A method according to claim 4 wherein one side of the mouth has a projection which engages a recess on the object, and the other side has a flange for receiving a securing bolt.

8. A method according to claim 7 wherein the projection is formed subsequent to the extrusion process by suitable shaping of the extrusion.

9. A method substantially as described herein.

- 80 10. A mounting bracket made by the method according to any one of the preceding claims.

11. A metal mounting bracket having a U-shaped portion, at the ends of which there are means for securing the bracket to an object, the base of the U being rounded and having integrally formed on its inner surface a series of axially extending parallel teeth.

12. A metal mounting bracket according to claim 11 wherein the means are provided by mutually outwardly directed flanges, apertured for receiving securing bolts.

13. A metal mounting bracket according to claim 11 wherein the means are provided by, on one side, a projection which engages the recess on the object and, on the other side, by an apertured flange.

14. A metal mounting bracket substantially as described herein and with reference to the drawings.